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Kug-Jin Yun

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP
1279 OAKMEAD PARKWAY
SUNNYVALE, CA 94085-4040

EXAMINER

HALLENBECK-HUBER, JEREMIAH CHARLES

ART UNIT

PAPER NUMBER

2482

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/648,169	Applicant(s) YUN ET AL.	
	Examiner JEREMIAH C. HUBER	Art Unit 2482	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10317861.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/317861, filed on 11/20/2002.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 22-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima (6574423) in view Rodriguez et al (6760918).and Liu (7035453).

In regard to claim 22 Oshima discloses a stereoscopic three-dimensional video processing system:

packetized data stream, which inherently requires a packetizer (Oshima Fig. 49 and col. 16 lines 5-12);

a compressor for processing a plurality of video data streams into a plurality of compressed video data streams, and combining the plurality of compressed video data

streams into a single integrated elementary stream (Oshima Fig. 1 note MPEG encoders 3a and 3b and interleave circuit 4 and col. 5 lines 8-21); and

a multiplexer for multiplexing the elementary stream (Oshima Fig. 1 note recording means 9).

Oshima further discloses a transmission end, or recording device, which outputs the multiplexed stream to an optical storage disk (Oshima Fig. 1) which is physically transported to a receiving end or, reproduction device, where the disk is read and video is reproduced (Oshima Fig.5). Oshima further discloses display discrimination information including the display mode which is provided by the packetized elementary stream which is selected by a user from a set of display modes, and is included in the packet header (Oshima Fig. 49 note stereoscopic identifier 223 is part of pack header 222, further note col. 7 lines 39-47 user selects display mode from a set of display modes including 2D and 3D mode). It is noted that Oshima does not disclose details relating to a transmitter or transmitting display information after user selection, or, “on-demand”. However, Rodriguez discloses a video on demand system including a transmitter which transmits multiplexed video directly from a transmitter to receiver with no transport media (Rodriguez Figs. 2, 3 note pars. 45-46 headend 11 provides a multiplex of channels including on demand channels 240 also note Fig. 3 headend 11 transmits video over communications network 18 to digital home communication terminal 16 [note par. 42 for acronyms]). Rodriguez further discloses including video data in the transmitted multiplex in response to user selection and in a display format selected by a user (Rodriguez Fig. 3 and pars. 50, 51 and 58 note purchasable and

recordable media or video on demand also note Figs. 22-27 user may select a variety of display and audio formats). It is therefore considered obvious that one of ordinary skill in the art at the time of the invention would recognize the advantage of utilizing a video on demand distribution system as taught by Rodriguez in transmitting the stereoscopic three dimensional video of Oshima including a selectable 2D or 3D format in order to gain the advantage of electronic distribution of video data as suggested by Rodriguez (Rodriguez par. 4).

As noted above Oshima further discloses display discrimination information including the display mode. It is noted that neither Oshima nor Rodriguez explicitly disclose including a flag indicating the number of viewpoints in an elementary stream in the packet header. However, Liu discloses a method for multi-view video compression in which a flag is used to indicate the number of viewpoints in a video bitstream (Liu Fig. 11 and col. 7 line 44 to col. 8 line 43 particularly note col. 7 lines 44-61 PG type indicates the number of views). Liu further discloses including the flag in a packet header (Liu col. 8 lines 27-43 note PG header specifies the PG type). It is therefore considered obvious that one of ordinary skill in the art at the time of the invention would recognize the advantage of including a number of viewpoints indication flag in a packet header as taught by Liu in the invention of Oshima in view of Rodriguez in order to allow for flexibility in coding as suggested by Liu (Liu col. 8 lines 41-43).

In regard to claim 23 refer to the statements made in the rejection of claim 22 above. Oshima further discloses that the plurality of compressed video data streams are

multi-channelled field based streams (Oshima Fig. 35 and col. 20 lines 9-24 note fields recorded in first and second angle sub-channels).

In regard to claim 24 refer to the statements made in the rejection of claim 23 above. Oshima further discloses that the object encoder outputs elementary streams in the unit of 4-channel fields including odd and even fields for left and right images when the input data are three dimensional stereoscopic data (Oshima fig. 23, output from compressing units 103a&b contains 4 fields denoted by circles, x's squares and triangles).

In regard to claim 25 refer to the statements made in the rejection of claims 22 and 24 above. Particularly, in example of Oshima, $N = 2$ and four field based elementary streams are outputted.

In regard to claim 26 refer to the statements made in the rejection of claim 23 above. Oshima further discloses that display discrimination information represents whether a video stream is two or three dimensional (Oshima Fig. 49 note 223 stereoscopic identifier).

In regard to claims 27-30 refer to the statements made in the rejection of claims 22-26 above.

In regard to claim 31 Oshima further discloses a method for decoding a multiplexed video packet stream including:

receiving, by a receiver, the multiplexed packet stream which includes viewpoint information and display discrimination information, wherein the viewpoint information

represents the number of viewpoints of motion pictures and the display discrimination information represents a display mode of motion pictures that is selected by a user from a set of display modes (Oshima Figs. 5, 49, 52 note receiver, or progressive/stereoscopic applicable player, 43 shown in Fig. 5, col. 16 lines 23-40 note packetized video in Fig. 49 contains viewpoint information 221 and display information 223, further note col. 7 lines 39-47 user selects display mode from a set of display modes including 2D and 3D when the stereoscopic identifier indicates that the 3D mode is available, also note the video is received from a DVD);

detecting, by a decoder, the viewpoint information and the display discrimination information from the multiplexed packet stream (Oshima Figs. 5, 13-14, 23-24 and col. 7 lines 1-12, note decoder within receiver unit comprising at least 16, 21, 23, 24, 26 and 39 also note PG/stereoscopic identifier is detected and separated from multiplexed stream by optical reproducing apparatus 24); and

confirming, by a decoder, a stream format of the multiplexed data and decoding the stream based on the viewpoint and display discrimination information (Oshima Figs. 23-24 and col. 12 lines 35 to 55 . note lines 45-50 stereoscopic/PG identifier is 'confirmed' by reproducing unit 26 and decoding according to the stereoscopic mode may be initiated further col. 16 lines 12-21 note sub-stream number information 221 is included in the provider defined stream also note and Figs. 35, 52-53 and col. 16 line 23 to col. 17 line 9 for decoding using viewpoint information).

Oshima further discloses operation on a stream in which display discrimination information is included in a packet header (Oshima Fig. 49 note stereoscopic identifier

223, is part of pack header 222). It is noted that Oshima does not disclose details relating transmitting display information after user selection, or, “on-demand”. However, Rodriguez discloses a video on demand system which transmits multiplexed video directly from a transmitter to receiver (Rodriguez Figs. 2, 3 note pars. 45-46 headend 11 provides a multiplex of channels including on demand channels 240). Rodriguez further discloses including video data in the transmitted multiplex in response to user selection and in a display format selected by a user (Rodriguez Fig. 3 and pars. 50, 51 and 58 note purchasable and recordable media or video on demand also note Figs. 22-27 user may select a variety of display and audio formats). It is therefore considered obvious that one of ordinary skill in the art at the time of the invention would recognize the advantage of utilizing a video on demand distribution system as taught by Rodriguez in transmitting the stereoscopic three dimensional video of Oshima including a selectable 2D or 3D format in order to gain the advantage of electronic distribution of video data as suggested by Rodriguez (Rodriguez par. 4).

As noted above Oshima further discloses display discrimination information including the display mode. It is noted that neither Oshima nor Rodriguez explicitly disclose including a flag indicating the number of viewpoints in an elementary stream in the packet header. However, Liu discloses a method for multi-view video compression in which a flag is used to indicate the number of viewpoints in a video bitstream (Liu Fig. 11 and col. 7 line 44 to col. 8 line 43 particularly note col. 7 lines 44-61 PG type indicates the number of views). Liu further discloses including the flag in a packet header (Liu col. 8 lines 27-43 note PG header specifies the PG type). It is therefore

considered obvious that one of ordinary skill in the art at the time of the invention would recognize the advantage of including a number of viewpoints indication flag in a packet header as taught by Liu in the invention of Oshima in view of Rodriguez in order to allow for flexibility in coding as suggested by Liu (Liu col. 8 lines 41-43).

In regard to claim 32 refer to the statements made in the rejection of claim 31 above. Oshima further discloses viewpoint and display discrimination information are included in a packet header (Oshima Fig. 49).

In regard to claim 33 refer to the statements made in the rejection of claim 31 above. Oshima further discloses a field shuttering display mode (Oshima Fig. 24 col. 12 line 56 to col. 13 line 5 note output transforming unit 105 for field shuttering at 120Hz and 60 Hz). Oshima further discloses generating a two channel elementary stream in the order of right odd and left even (Oshima fig. 24 note even and odd fields of left and right images 72-73 at output 106).

It is noted that Oshima in view of Rodriguez and Liu does not disclose expressly disclose a stream in the order of left odd fields and right even fields (hereafter Lo-Re).

However, it would have been obvious to a person of ordinary skill in the art at the time of the invention to instead use Lo-Re. Applicant has not disclosed that Lo-Re provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with Ro-Le because both ordering schemes serve the same purpose of present left and right images in different fields. One would further expect one

of ordinary skill in the art to have no difficulty in implementing an Lo-Re order in the invention of Oshima as all even and odd fields of the left and right images are available at the 120 Hz output 105 (Oshima Fig. 24) and selecting different fields for the 60 Hz output 106 would be trivial. Therefore, it would have been obvious to one of ordinary skill in this art to modify Oshima in view of Rodriguez and Liu with Lo-Re ordering to obtain the invention as specified in claim 8.

In regard to claim 34 refer to the statements made in the rejection of claim 31 above. Oshima further discloses a frame shuttering display mode (Oshima Fig. 25 and col. 13 lines 6-20 for frame based shuttering). Oshima further discloses ordering groups of fields from right and left video streams in the order of right odd, right even, left odd, left even (Oshima Fig. 25 and col. 13 lines 7-20 note Groups A-B for right odd and even and groups C-D for left odd and even hereafter Roe- Loe).

It is noted that Oshima in view of Rodriguez and Liu does not disclose expressly ordering left fields before right fields (hereafter Loe-Roe).

However, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use Loe-Roe ordering. Applicant has not disclosed that Loe-Roe provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with Roe-Loe because both ordering schemes serve the same purpose of transmitting left and right frames to a receiver or storage unit.

Therefore, it would have been obvious to one of ordinary skill in this art to modify Oshima in view of Rodriguez and Liu with Loe-Roe ordering to obtain the invention as specified in claim 9.

In regard to claim 35 refer to the statements made in the rejection of claim 31 above. Oshima further discloses a two dimensional mode (Oshima col. 7 lines 35-46 note 2d mode) Oshima further discloses that fields output from the right channel are used when operating in the two dimensional mode. (Oshima Fig. 5 and col. 7 lines 1-13 note switch 27 in 2D mode will only output the R/A signal on outputs 29 and 30 and will output both R/A and L/B when in the 3D mode)

It is noted that Oshima in view of Rodriguez and Liu does not expressly disclose using the left channel in the odd-even order (hereafter Loe).

However, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use Loe in the two dimensional mode. Applicant has not disclosed that Loe provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well using the right channel because both schemes serve the same purpose of presenting a viewable two dimensional image of, substantially, the same scene. Therefore, it would have been obvious to one of ordinary skill in this art to modify Oshima in view of Rodriguez and Liu to use Loe in order to obtain the invention as specified in claim 9.

In regard to claim 36 refer to the statements made in claims 31 and 34 above. In Oshima N is equal to two.

In regard to claims 37-40 refer to the statements made in the rejection of claims 31-36 above. Oshima further discloses that all decoding operations are preformed by a receiver (Oshima Fig. 5 note player 43). Oshima further discloses demultiplexing (E.g. Oshima Fig. 24 note separator 68, also Fig. 5, optical reproducing circuit 24 and track buffer circuit 23).

Response to Arguments

Applicant's arguments with respect to claims 22-40 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Freeman discloses an interactive data program system wherein a user can select one of several predefined views of an event for display, and the views are included in a multiplex transmission after user selection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEREMIAH C. HUBER whose telephone number is (571)272-5248. The examiner can normally be reached on Mon-Fri 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (571)272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Marsha D. Banks-Harold/
Supervisory Patent Examiner, Art Unit 2482

Jeremiah C Huber
Examiner
Art Unit 2482

/Jeremiah C Huber/
Examiner, Art Unit 2621